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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/722,576

11/28/2003

Thomas Happ

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25227

7590

10/31/2006

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EXAMINER

MCLEAN MAYO, KIMBERLY N

ART UNIT

PAPER NUMBER

2187

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/722,576	Applicant(s) HAPP ET AL.	
	Examiner Kimberly N. McLean-Mayo	Art Unit 2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. The enclosed detailed action is in response to the After-Final Amendment submitted on October 5, 2006.

Response to Amendment

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 11-12, 14 and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Buchenrieder (USPN: 5,706,225).

Regarding claims 11 and 18-19, Buchenrieder discloses a memory component (Figure 1); a controller adapted (logic responsible for providing data, refresh signal, clock pulses, etc.) to operate the memory component in several different modes by bringing the memory component into states of different storage permanence by correspondingly selecting a current intensity of a programming pulse (C 1, L 52-64).

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Regarding claim 12, Buchenrieder discloses a soft writing mode (volatile memory operation mode).

Regarding claim 14, Buchenrieder discloses a hard writing mode (non-volatile memory operation mode).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 5-10 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchenrieder et al. (USPN: 5,706,225) in view of Moore PG PUB: US 2002/0127886.

Regarding claims 1-2, 6-8 and 15-17, Buchenrieder discloses sending out a signal to select one of several modes for a memory component (refresh signal; C 1, L 48-64); operating the memory component in accordance with the specific mode selected by the signal, wherein depending on the specific mode selected the memory component is brought into states of different storage permanence by correspondingly selecting a current intensity of a programming pulse [programming pulse – clock rate pulse](C 1, L 48-64), wherein data is written into the memory component on accordance with the specific mode selected by the signal. Buchenrieder does not specifically disclose a PMC (programmable metallization component). However, Moore teaches that PMC memory cells contain fast ion conductors, which provide efficiency and reliability

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(section 0005). Hence, one of ordinary skill in the art would have been motivated to use a PMC memory component with the teachings of Buchenrieder for the desirable purpose of efficiency and reliability.

Regarding claim 3, Buchenrieder discloses a soft writing mode (volatile memory operation mode).

Regarding claim 5, Buchenrieder discloses a hard writing mode (non-volatile memory operation mode).

Regarding claims 9-10, Buchenrieder and Moore do not disclose sending the select signal on the same data lines as the data or using mode selection bits that are followed by bits carrying the data to be stored. However, these concepts are well known in the art wherein control/address and data signals are multiplexed on the same signal lines. This method reduces the overall number of signals required to transmit information, thereby reducing delays in the system due to the natural characteristics of a signal line such as impedance. Hence, it would have been obvious to one of ordinary skill in the art to incorporate such functionality in the system taught by Buchenrieder and Moore for the desirable purpose of improved performance afforded by delay reduction.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchenrieder et al. (USPN: 5,706,225) in view of Moore PGPUB: US 2002/0127886 as applied to claim 1 above and further in view of Hu (USPN: 5,768,182).

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Buchenrieder and Moore disclose the limitations cited above, however, they do not disclose a non-volatile operating mode (flash, eeprom type operation). Hu discloses a non-volatile operating mode (Abstract). This feature taught by Hu provides flexibility in that the memory cell may be erasable during operations and retained upon power loss. One of ordinary skill in the art would have recognized such a benefit and would have been motivated to use Hu's teachings with the system taught by Buchenrieder and Moore for the desirable purpose of flexibility.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchenrieder et al. (USPN: 5,706,225) as applied to claim 11 above and further in view of Hu (USPN: 5,768,182).

Buchenrieder discloses the limitations cited above, however, Buchenrieder does not disclose a non-volatile operating mode (flash, eeprom type operation). Hu discloses a non-volatile operating mode (Abstract). This feature taught by Hu provides flexibility in that the memory cell may be erasable during operations and retained upon power loss. One of ordinary skill in the art would have recognized such a benefit and would have been motivated to use Hu's teachings with the system taught by Buchenrieder for the desirable purpose of flexibility.

Response to Arguments

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

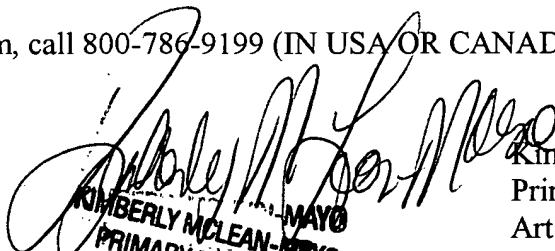
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Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly N. McLean-Mayo whose telephone number is 571-272-4194. The examiner can normally be reached on Mon, Wed, Thurs (10-4), Tues (9:45 - 6:15).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 571-272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



KIMBERLY N. McLEAN-MAYO
PRIMARY EXAMINER

Kimberly N. McLean-Mayo
Primary Examiner
Art Unit 2187

KNM

October 17, 2006